has been experienced than we find recorded at the same period in any year as far back as 1789.

A portion of the following table was given on a former occasion; but as it will be useful for comparative reference, we now give it complete for the 12 months.

Table of the Monthly Mean Maximum, Mean Minimum, Mean, and Extremes of Temperature, and the amount of Rain in 1860, comparatively with the average.

1860. Months.	TEMPERATURE. Mean Maximum	Above (+) or below (−) the Average.	Mean Minimum.	Above (+) or below (−) the Average.	Mean.	Above (+) or below (−) the Average.	Extreme Highest.	Extreme Lowest.	RAIN. Inches.	Above (+) or below (−) the Average. Inches.
January ..	46.87	+4.11	30.74	−0.47	38.80	+1.81	57	20	2.18	+0.53
February ..	44.17	−1.50	26.94	−5.46	35.25	−3.43	58	14	1.20	−0.27
March ..	49.97	−0.75	32.77	−0.61	41.37	−0.68	60	18	1.63	+0.35
April ..	53.40	−4.21	31.09	−5.47	42.20	−4.84	65	20	0.95	−0.63
May	60.06	+1.49	39.90	−2.26	52.98	−0.83	75	27	3.04	+1.14
June	64.96	−7.17	44.86	−4.44	54.66	−5.80	73	34	5.15	+3.80
July	71.06	−3.03	45.95	−0.19	58.20	−4.02	77	34	2.72	+0.95
August ..	67.26	−6.25	47.10	−3.51	57.21	−4.88	70	38	4.16	+1.73
September ..	64.07	−3.05	40.27	−5.39	52.17	−4.79	72	28	2.82	+0.35
October	59.48	+0.43	38.30	−2.74	48.93	−1.14	69	25	1.60	−1.17
November ..	46.96	−2.79	31.16	−4.37	39.06	−3.56	55	22	2.60	+0.41
December ..	42.16	−8.19	26.38	−0.78	34.49	−4.97	55	−1	2.03	+0.56
Mean ..	56.87	−2.93	36.19	4.00	46.26	8.18	77*	−1*	30.08†	+10.73

Although January was comparatively mild for the season, yet, owing to the coldness of the summer months, the mean temperature of the year, 46.26, was lower than any since 1789, at least. In 1855, nearly as cold, there was a severe winter, but a warm summer compared with the last.

November.—The mean temperature of the preceding month had a tendency to reach the average; but in the present the mean again fell back, owing not so much to the coldness of the days as to a general low temperature at night, but without any great extreme. The lowest, 22°, occurred on the nights of the 2d and 3d. East and north-east winds prevailed for 21 days; it was only between the 14th and 22d that it blew from other quarters, and in two days of that period it came from N.W. It rained more or less on 14 days, and more than half an inch fell on the 14th; the total amount was 2.60 inches, being nearly half an inch above the average. The ground temperature at 1 foot deep was about 1° higher than usual; at 2 feet it was nearly as much below the average.

December.—Neither the general low temperature of this month, nor the extreme minimum has been equalled in any corresponding month in this century. The mean was only 2°.48 above the freezing point, or 34°.48, whilst the extreme lowest was 1° below zero, or at −1° Fahrenheit. In December 1853 and 1859 it was as low as 7°, in 1855, 9°, and in 1830, 10°; and these are the lowest temperatures we find recorded as having occurred in the neighbourhood of London in any December for the last 50 years. Previous to this unusual degree of cold, the wind was from the north for six consecutive days, and one day from N.E., notwithstanding which the barometer was very low; but soon after it suddenly rose fully an inch. The amount of rain and melted snow was above the average. The mean temperature of the ground at 1 foot deep was 44°, and at 2 feet 43°.38, the former being 1°.94 above the mean and the latter 0°.17 below; the instruments at both depths indicated 38° on the last day of the month. During the intense frost the ground was covered with about 4 inches of snow, which doubtless prevented the frost from penetrating much below the surface. The severe period commenced on the 17th. The following are the minima:—Dec. 17th, 20°; 18th, 15°; 19th, 10°; 20th, 23°; 21st, 28°; 22d, 13°; 23d, 12°; 24th, 4°; 25th, 19°; 26th, 17°; 27th, 24°; 28th, —1°; 29th, 26°.

* Extremes of the year.
† Total depth of rain for the year.

The above are the lowest temperatures that occurred between sunrise of the day, and the same time next morning.

In the neighbourhood of London the annual depth of rain-fall on the average of 34 years is 23.578 inches. In the past year the total depth, 30.08 inches, is therefore 6½ inches more than the usual quantity. But it was wanted; for trees in the previous seasons were suffering from dryness at the root. A well in which the water maintains the same level as that of the subterranean bed of water in the gravel in which the well is sunk, was 8 feet 11 inches below the surface of the ground in the autumn of 1859. On the 31st of December 1860, the surface of the water in the same well was only 4 feet 4 inches from the top, being a rise of 4 feet 7 inches. The underground reservoirs are now amply replenished; but it is doubtful whether roots that went down in quest of moisture when this was low, will not become diseased where the water has risen to surround them constantly.

The past year has been remarkable for the frequency of strong gales and violent hurricanes. One of the latter, on the 27th and 28th of February, proved very destructive on the west coast. It then swept across the centre of England, tearing up trees containing from 100 to 400 feet of timber. In the finely wooded parts of Nottinghamshire, more than 20,000 trees were blown down. At Acton Park, Denbighshire, an Ash tree was torn up which measured 41 feet in circumference near the base. A Cedar of Lebanon, in Hertfordshire, 100 years old, with 60 feet of straight stem, was uprooted, carrying with it several tons of earth. Again, on the 3d of October, a tremendous hurricane commenced in the Hebrides, sweeping such crops as were above ground on St. Kilda, completely into the sea; traversing Scotland, tens of thousands of trees, even whole plantations, were laid uniformly prostrate, as ordinary winds, with wet, will lay a field of grain.

We have now presented our readers with the principal characteristics of the year just ended, in hope that the effects of a recurrence of such vicissitudes may be guarded against as far as possible. We previously remarked that had it not been for improved cultivation and drainage, the past must have proved a most disastrous season. There is still much room for farther improvement, producing, consequently, still more beneficial results, to the country and to individuals. In rainy and at the same time cold seasons, for, as in 1860, the two generally go together, the urgent necessity of thorough drainage, both surface and underground, is sufficiently apparent. The means of surface drainage should be at command when required; but by deepening the soil where it is too thin, and rendering it permeable to water with deep under-drainage to prevent stagnation, most of the summer rain that falls can find its way through the soil, rendering it comparatively warm. But where under-drainage is neglected, the accumulated moisture stagnates on the already saturated soil, cold in consequence of the winter rains or melted snow having never been drawn off; that moisture from its coldness is heavier than the warmer summer rains; the latter may run off by the surface, and thus their warming effect on the soil is lost, but they cannot displace the colder and heavier water, which consequently retains possession of the soil for the greater part of the growing season, and in that case the crops cannot thrive as they otherwise would, and are, besides, rendered late, so that in bad seasons they are in danger of being lost.

A SHORT discussion having taken place in our columns respecting the proper termination of modern surnames when Latinized for the purpose of BOTANICAL NOMENCLATURE, we have thought the question worth a little investigation. A correspondent objects to Latinizing such names as Hooker, Douglas or Darwin by Hookerius, Douglasius, and Darwinius, and contends for Hookerus, *gen.* i, Douglasus—*gen.* i, and Darwinus—*gen.* i. To this another correspondent replies that the proper manner of Latinizing names is to add us—*gen.* i, when the name ends with a consonant, and ius—*gen.* ii, when the name ends with a vowel; as was recommended by the British Association for the Advancement of Science in 1842. A third rejoins that an adherence to this rule would end in intolerable words, such as Lobb, *Lobbi*, Potts, *Pottsi*, Decaisne, *Decaisneii*, and that euphony is the only safe guide. Our second correspondent, P. G. E., replies that as he understands the rule for Latinising proper names, the termination *ius*, gen. *ii*, should be substituted for, and not added to a terminal vowel; thus Decaisne would make Decaisnius, *gen.* Decaisnii, &c. Terminal *y* should be treated as a consonant and retained: *e.g.*, Lindley, Lindleyus, Lindleyi. In proper names ending with a consonant the termination *us*, gen. *i*, is added; thus Lobb would make Lobbus, *gen.* Lobbi; Hooker, Hookerus, *gen.* Hookeri; and to his ear these terminations sound quite as harmonious as Lobbii and Hookerii. If euphony is to be considered "the only safe guide," he thinks a glance at our scientific nomenclature will show how little individual taste is to be trusted. Take for instance Abildgaardia, Forbesoerinus, Agassiziehthys, as examples. If therefore some rule could be generally adopted it would be most desirable, for we must remember that names once correctly given must be tolerated.

In the last remark we must all agree; but there is little probability of uniformity being secured unless by showing what the practice was of Latinizing barbarian names when Latin was a living tongue. Upon this point we have been favoured with the following remarks by a very learned Latin scholar:—

"As the Roman surnames or those which belonged to *all* the members of a family ended without exception in *ius*, I can have no hesitation in preferring this termination whenever we Latinize English *surnames*. Theoretically such Latin surnames were in the outset probably but patronymics, that is, signified the "son of ——," just as Johnson, Dixon, Williamson, with us, or what is more in harmony with the Latin surnames, Jones (= John's), Williams (William's), Prichard (=ap-Richard). I say more in harmony because the Latin surnames (nomina *gentilia*) were strictly only genitives (with *son* understood). Thus Sextius was probably at first only the genitive of Sextus, Quintius the gen. of Quintus, Tullius of Tullus, like the familiar genitives unius, illius, and still more like the poetical genitives unius, illius."

These observations seem hardly confirmed by reference to well-known Latin proper names; the great majority indeed end in ius, as Ostorius, Petilius, Petronius, Vitellius, Manlius, Tarquinius, &c. &c. But on the other hand we find such names as Sabinus, Petalus, Soranus, Mansuetus, Ismenus, Gamaxus, Gannasous, and the like. To say nothing of Gracchus. It seems to have been usual with Low Latin writers to reject the terminal *ius* and adopt *us*. Thus in the old Latin Charters we find Heanus for Hean, Brihtricus for Brihtric, Rethunus for Rethun, Kenulfus for Kenulf, Sueinus for Sweyne, Cnutus for Cnut, Turkillus for Turkil, and Haroldus for Harold.

Upon the whole then it would appear that either termination, *ius* or *us*, gen. *ii* or *i*, is allowable, but that *ius* is that which was used in the best period of living Latin. We should be glad, however, to hear more of the opinions of Scholars upon this point.

NOTE ON THE ACHENIA OF PUMILIO ARGYROLEPIS.

MR. JAMES DRUMMOND sent me a packet of seeds of this plant from Swan River, with the following memorandum:—"The achenia of several small composite plants, more especially of that above named, are blown about by the wind till a shower of rain falls, when they attach themselves by a gummy matter to the soil by their lower ends, at the same time setting themselves perfectly upright. They ornament many a barren spot in this country throughout the dry season, and they are not easily removed even when the ground is flooded by thunder storms."

The achenia of the Pumilio are singularly-shaped bodies; the calyx (pappus) consists generally of nine scales or sepals, expanded like a flower, with each sepal beautifully ornamented by branching lines; the lower part, including the seed, is bent towards one side (see Fig. 1) at nearly right angles, and somewhat resembles a human foot in shape. The upper side or instep of this foot is smooth, but the toe and the sole, which is about 1-25th of an inch in length, is covered (see Fig. 2) with from 30 to 40 imbricated little bladders. Each bladder is oval and 1-200th of an inch in length, and is formed of thin structureless membrane, enclosing a hard ball of dry mucus or matter which becomes adhesive when moistened. The sole or the achenium is pitted where the bladders are attached

but these do not open into its interior. When the achenia are placed in water or on a damp surface, the bladders in a few minutes all burst longitudinally and discharge their contents, rendering a large drop of water very viscid. This viscid drop does not diffuse itself throughout the water, like gum, but remains surrounding the achenium. When dried it becomes stringy, and will again rapidly absorb moisture and swell. Spirits of wine does not cause the bladders to burst, and it renders the mucus slightly opaque.

If a pinch of these achenia be dropped from a little height on damp paper, the greater number fall like shuttlecocks, upright and rest on the sole; the bladders then quickly burst, and as the paper dries the seeds become firmly attached to it. Many achenia, however, drop so as to rest on one edge of the sole, and in this case the drying of the mucus pulls the upper edge of the sole down, and so places the flower-like calyx nearly upright. Any one looking at a piece of paper over which when damp a number of achenia had been scattered by chance would conclude that each one

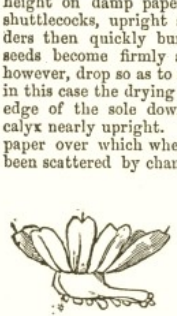

FIG. 1. Side view.

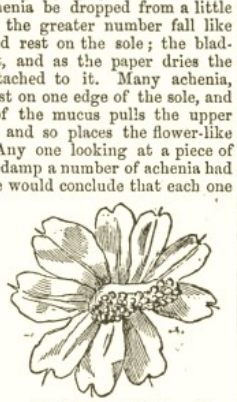

FIG. 2. View of under side, seen a little obliquely.

had been placed upright and carefully gummed. If an achenium falls upside down, so as to rest on the tips of the calyx, the sole does not touch the damp surface, yet moisture is so rapidly absorbed by the sepals, that in seven minutes I have seen the bladders burst: in this case as the paper dries the exuded mucus dries on the surface of the sole and the seed is not fixed; but if subsequently it be blown the right way up on a damp surface, the mucus will soften and act and attach it firmly. In so dry a climate as Australia the existence of these little bladders of dried mucus, having a strong affinity for water and becoming highly viscid on that side alone of the achenium which alights on the ground, seems a pretty adaptation to ensure the attachment of the seed to the first damp spot on which it may be blown. Whether the tendency of the achenia to place themselves upright be of any service to the plant would be hard to determine; but it seems possible that the salver-shaped calyx, which, as we have seen, so rapidly absorbs moisture and carries it down to the lower surface of the achenia, might aid in utilising dew or showers of fine rain. *Charles Darwin.*

MYCOLOGY.—No. XL.

AGARICUS RIMOSUS, *Bull.*—This is one of the most common Agarics on the borders of woods and in thickets, making its first appearance about the end of June, and then occasionally while the weather is open. Its general aspect is familiar to most observers of such objects, from the numerous radiating fissures which appear in the pileus. It has no especial qualities either good or bad to demand attention, and is introduced here merely as an object which must often come under notice, and with whose name therefore many would be glad to be familiar.

A. rimosus belongs to that division of Fungi which contains species with dingy and occasionally bright-coloured spores, to which no positive general character can be given, though they are termed by Fries generally, ferruginous. In some species, however, not the slightest ferruginous tint can be traced. Negatively they are neither white, nor rose-coloured, nor blackish-purple nor black, and therefore species are included not only with ferruginous but with tawny or brown spores. A few approach the peroxide of iron tint which is characteristic of *Cortinarii*, and which Fries terms ochraceous.

The pileus of *A. rimosus* is brownish yellow, thin, fleshy, and bell-shaped, and is clothed with fine adpressed silky fibres which as it expands separate and leave broad chinks exposing the paler flesh beneath; the stem is firm, solid, slightly bulbous at the base, white and nearly smooth, except above where it is minutely mealy; the gills are slightly ventricose, nearly free, and of a pallid brown tint. It has no peculiar scent or taste, by which circumstance it is known at once from *A. pyriodorus*, which has a peculiar scent like that of over-ripe Pears.

Such is the plant we have chosen for our present illustration, and we might have closed our notice here, did not the opportunity of a little permissible space enable us to answer a question which has often been submitted to our notice.

In all books which profess to give the derivations of botanical terms, it is said that Agaricus derives its name from Agaria, a region in Sarmatia, or from Agarus, a town and river in the same country. This derivation at first sight seems equally absurd with the parallel drawn by Fluellen between Macedon and Monmouth. What has Sarmatia to do with toadstools more than any other country, as they are found everywhere? The fact however is that the original name *Agaricum*, for so it stands in Pliny, had nothing whatever to do with them, but was applied by Dioscorides to a peculiar drug, supplied by the *Polyporus* of the Larch, which was obtained principally if not solely from Agaria, but which, though formerly of considerable repute, appears now to have gone almost entirely out of use in regular practice. It is, however, still to be had of the herbalists, who import it from Germany, a form on *Larix sibirica* being obtained occasionally from Archangel. As the true species occurs only on the Larch, and indeed upon very old trees, it is confined almost entirely to places where that genus of Conifers is indigenous.

Other Polypori have often been substituted for that of the Larch, and therefore the name *Agaricum*, or *Agaricus* as it was afterwards written, became to a certain extent generic for Polyporus, and it is so used by Micheli, Ray, and others, the word *Fungus* being generally applied to what after Linnæus we now call Agaricus. It is to be regretted that when that great author reformed the system of Botany, he too often took any names which offered themselves in the older authors without giving himself the trouble to inquire whether they belonged really to the plants to which they were attributed, and thus the familiar name of Agaric is now applied to plants which should never have borne it. Our earlier herbalists rightly applied it to corky arboreous Fungi, as Agaric of the Oak, &c. In like manner the Greek *Hydnum* instead of being a conspicuous pileate Fungus such as we now recognize under the name, was originally a kind of Truffle, and many other instances of similar misnomers might be adduced. It is however now too late to mend such matters, and we may be glad to substitute such a word as Agaric for Toadstool, which is not only disgusting in its real etymology, but helps to keep up the feeling of contempt with which a most interesting class of plants is too frequently regarded. *M. J. B.*

AGARICUS RIMOSUS, *Bull.*

(Copied by permission from Greville's Cryptogamic Flora.)

COTTAGE GARDEN SOCIETIES.

AMONG the societies which are successfully managed, I suppose that at Hitcham, originated and conducted by the Rev. Professor Henslow, holds the first place, though I am given to understand those at Sudbury under Mr. Sydney, at Tortworth under the special direction of Earl Ducie, and at Broomborough Pool, connected with Messrs. Price's Candle Manufactory, are very excellently managed. These may be considered independent societies, supported (in a measure) it is true by the pecuniary aids of the good and benevolent, but dependent for their main attraction and usefulness upon the exertions and good cultivation of their respective members. This is as it ought to be, for I hold it to be more than questionable whether, when the prizes for cottagers' produce are tacked to the end of a large town or county exhibition, it is not positively injurious to the interest of the cottagers, inasmuch as their productions being brought in contact with more attractive things, they do not receive the attention they would do if collected in an exhibition to themselves; neither do the cottagers take so much interest as they would do in an exhibition which they might emphatically call "our own." For this reason I would in all cases detach the cottagers' show from the Horticultural Societies of the neighbourhood, for, however much these may tend to improve cultivation among the monied classes, I feel convinced they exert no such influence upon the working man. On the contrary, he feels, if he exhibits at all, that he is eclipsed by my lord's or the squire's gardener, though it must be confessed that, confining the comparison to the useful vegetables only, the cottager rarely loses much; indeed, in early Potatoes and Cabbage I have frequently seen better and finer specimens from the cottage garden than could be found elsewhere in the same neighbourhood, and I do know instances where gardeners have purchased or borrowed from the cottager to make up a basket for exhibition.

One of the largest and most successful cottagers' exhibition I ever saw was held in South Wales, not far from Llandilo. The quantity of produce brought forward there was really surprising, and generally the quality was first-rate. Connected with this society I have seen a room 90 feet long by 27 feet wide, with three rows of tables, insufficient to hold the produce. True a few plants and fruits for decoration were sent by the neighbouring gentry, but in no case was a farthing of the funds applied to any but its legitimate use, for though farmers and village tradesmen were invited to compete, it was perfectly understood that if any prize was awarded to their productions the value reverted to the funds of the Society. Here the competitors were of two classes—adults, paying in one sum one shilling per annum, and children, paying 1*d.* per year. Prizes were given for collections and also for each kind of vegetable or fruit separately, for window plants in collections of three, and single specimens for cut flowers, preference being given to a few things neatly and artistically arranged rather than to huge bunches of flowers, which serve no purpose except that of stripping a garden of flowers, and for collections of wild flowers, Ferns, and British fruits. Some of the collections of wild flowers were really very beautiful, and I recollect a bouquet of these (in an old china vase, composed of Ferns, Foxgloves, Grasses, Orchids, Honeysuckles, Eglantine, &c., managed so artistically and elegantly that the Queen herself would have been proud of it. Now, though some may sneer at the tawdry finery of the poor man's house, I go with poor Douglas Jerrold, who said, "I never see an Italian image-merchant with his Graces, Venuses and Apollos at 6*d.* a head that I do not spiritually touch my hat to him. It is he who has carried refinement into the poor man's house; it is he who has accustomed the eyes of the multitude to the harmonious forms of beauty." It is a great step in education to get a child to understand the difference between a bouquet and a bunch of flowers; it is one thing to stick a bunch of flowers into a jug of water, and there let them remain until they are withered and dead, but another and very different thing to take the same flowers, place them artistically in a vase, and tend them with the care of real affection so long as they can be kept fresh. Teach a child to do this and to feel a pleasure in doing it, and you confer a real and life-long benefit upon it, a benefit such as can only originate and live in pure affection. Such is the influence of gardening, and of flowers especially, upon the working classes; and those who encourage their growth either by precept, example, or pecuniary aid, may very justly be classed among the benefactors of their country.

Cut flowers as a general rule should not be encouraged at exhibitions. It is wrong to strip a garden of its beauty for a mere temporary purpose, and however great the morning view may have been, I never look upon long ranges of boxes of withered Roses without feeling a strong desire to apply a horse-whip to the backs of those who have thus destroyed the most beautiful of God's works. Cut flowers should not be encouraged to any great extent from the cottage garden, and it is for that reason that I would urge artistic arrangement rather than a mass of flowers, however good or choice they may be.

Perhaps, however, rewards for the best managed garden do more good in fostering neat and provident habits than prizes for specimens of the best growth, inasmuch as a prize for good management must extend not only to the whole garden but to the garden for the entire season, for I hold it to be a rule more to be acted upon than it is, that a prize for the cultivation of a garden should not be given for its appearance on any particular day but should extend to quarterly examina-